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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/808,678

03/25/2004

Jeremy Green

VPI/02-137 US

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VERTEX PHARMACEUTICALS INC.
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EXAMINER

CHANDRAKUMAR, NIZAL S

ART UNIT

PAPER NUMBER

1625

MAIL DATE

DELIVERY MODE

03/31/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/808,678	Applicant(s) GREEN ET AL.	
	Examiner NIZAL S. CHANDRAKUMAR	Art Unit 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/04/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47,50,52,53,60,81,83-90,92-98 and 101 is/are pending in the application.
- 4a) Of the above claim(s) 52 and 53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47,50,60,81,83-90,92-98 and 101 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants response filed 03/04/2008 is acknowledged.

Applicants amended claims.

After entry of the amendment claims 47, 50, 52, 53, 60, 81, 83-90, 92-98, 101 are pending.

52-53 are withdrawn.

47, 50, 60, 81, 83-90, 92-98, 101 are under prosecution.

Response to Applicants Remarks:

Restriction Requirement

Applicants request the rejoinder of withdrawn claims 52 and 53 when the compound claims are found allowable. We are not at the stage where the base compounds are allowable.

Claim Rejections - 35 USC § 102

Previously presented claims were drawn to compositions containing compounds.

The instant claims are drawn to pharmaceutical compositions containing compounds.

Thus with the limitation of 'pharmaceutical' applicants overcome partially the previously presented rejections. See below rejection under 35 USC § 103.

Claim Rejections - 35 USC § 112

Applicants amendment to claims overcome the previously presented rejections under 35 USC § 112 *second paragraph*.

Maintained rejections:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Applicants arguments and amendments to claims partially overcome the previously presented rejections under 35 USC § 112 first paragraph. The specification contains generic statements with respect to potential utility (biological activity) of the compounds. According to the specification **certain** compounds are active in the assays at 1 micromolar concentrations. Applicants have deleted many variables (compounds) to overcome the previously presented rejections under 35 USC § 102(b). As such, with no disclosure of structural requirements for compounds to display activity, it is not clear what specific embodiments of the generically claimed formula would show useful biological activity.

New Rejection:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

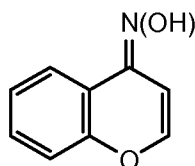
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

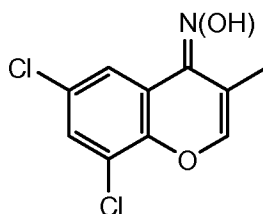
Claims 47, 50, 60, 81, 83-90, 92-98, 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon et al. (US 4065574).

The instant claims are drawn to compounds of formula I



core structure substituted with a variety of groups.

Moon et al. teach biological (fungicidal) activity of 4-chromone, 4-chromanone, 4-chromone oxime and 4-chromanone oxime compounds such as

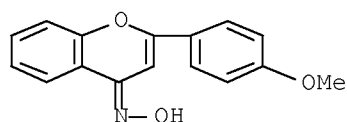


The difference between the compounds of Moon et al. and the compounds of the instant case is that the instant claim limitations with respect to substituents. In addition, Moon et al. is silent with regards to aspects of in vitro activity of the compounds.

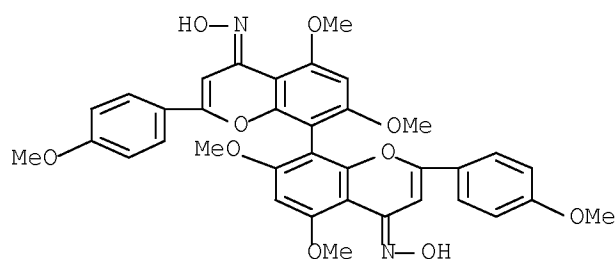
However, one skilled in the art of medicinal chemistry would be motivated to assay the many known and structurally modified oximes of Moon et al, with similar structure (see references cited under 35 USC § 102 (b); the applicant deleted many oxime compounds known in the prior art to overcome the previously presented rejections under 35 USC § 102(b)) for biological activity, because structurally similar compounds are expected to provide similar biological activity. The instantly claimed oximes would be suggested and thus obvious to one skilled in the art.

Prior art references not relied upon, in addition to the references cited in the previous office action, include:

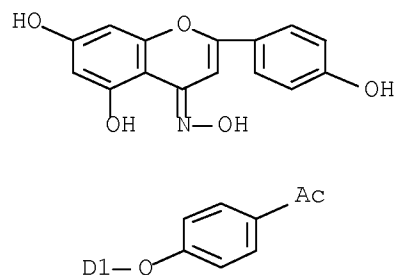
Ishchenko et al. Geterotsiklicheskikh Soedinenii) (2002), 38(3), 274-280.



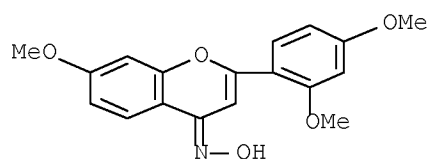
Murti et al., *Tetrahedron Letters* (1964), (39-40), 2995-7.



Kariyone Yakugaku Zasshi (1960), 80, 746-9; Yakugaku Zasshi (1960), 80, 749-52.

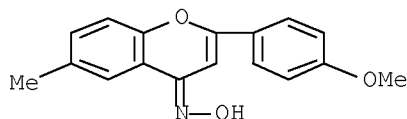


Spatz, Journal of Organic Chemistry (1959), 24, 1381-2.

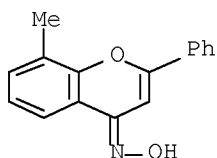


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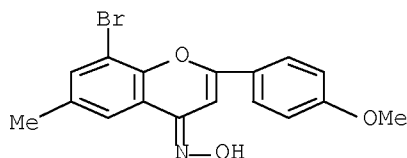
Rahatgaonkar et al. Indian Journal of Heterocyclic Chemistry (1996), 5(4), 323-324.



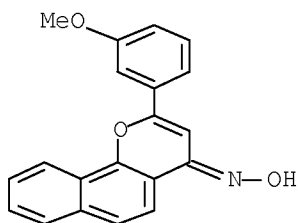
Basinski et al. Polish Journal of Chemistry (1991), 65(9-10), 1619-32.



Basinski et al. Polish Journal of Chemistry (1991), 65(9-10), 1619-32.



Kostanecki et al. Berichte der Deutschen Chemischen Gesellschaft (1908) 41, 783-6



No claim is allowed.

Applicant's amendments caused new grounds for rejection. **THIS ACTION IS MADE FINAL.**

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIZAL S. CHANDRAKUMAR whose telephone number is (571)272-6202. The examiner can normally be reached on 8.30 AM - 4.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571 0272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nizal S. Chandrakumar

/D. Margaret Seaman/

Primary Examiner, Art Unit 1625

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